

GMS Evolution Well Intervention with Cantilever

GMS Evolution and the Cantilever workover system has been designed and built to enable heavier workover operations from this self-propelled jack up barge. The GMS design enables execution of Heavy Well Intervention scopes traditionally completed with an expensive drilling rig by utilising the superior marine efficiencies of the GMS 4-Legged self-propelled jack up barges.

Benefits:

Cost Benefits

- Up to 6 days for Drilling Rig versus
 1 day with Evolution to move
 location
- Performing Workovers (ESP Changes) on multiple platforms, averaging 2 weeks each, Evolution can complete up to 24 Wells per Calendar year while a typical non propelled drilling jack up would complete 18 wells.

Operational Benefits

- Nimble and fast moving between wellheads / no need for Tugs
- Purpose built for Workover operations, increasing efficiency
- Substantially less POB requirement
- High quality solutions with modern technology
- Workover old platforms with structural integrity issues

GMS Evolution with Cantilever

GMS Evolution Top Drive System

Operational Capability





- ESP change out
- Plug and abandonment
- Re-completion
- Side-tracks
- Slot Recovery
- Workovers
- Coil Tubing and stimulation

GMS Evolution was recently contracted for the first well intervention scope for an Arabian Gulf NOC using the GMS unique technology. The work scope would include various operations which would require utilization of the unique Cantilever Workover system with a 2000 Horsepower Rig and integral well Control Fluid Circulation System.

Watch the Evolution in the Field - https://youtu.be/r8CCoMkEJDU



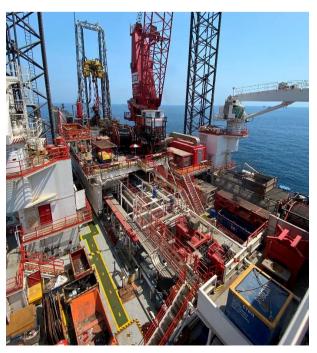
GMS Evolution



Marine

- Evolution jacked up alongside another barge to transfer Well Services equipment at an offshore anchoring point
- Well Services Equipment was moved across and commissioned on Evolution in a record 2 days utilising Evolution's modern cranes
- Evolution sailed to and approached the Platform Tower under its own power and positioned in DP2 Mode without the need for any expensive tugs
- **Evolution** Jacked up and deployed the Cantilever Well Intervention System over Platform Well Centre and was to commence readv Well Operations within 3 hours - an operation which typically takes 24 plus hours with traditional Drilling rigs, thus 90% time saving.

GMS Evolution



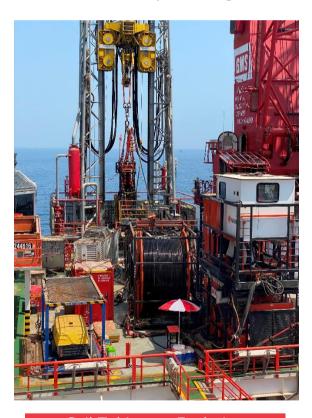
Rig Up & Down

- Rig Up of well services equipment was completed in 31 hours against a normal of 36 hours. A 15% time saving.
- Rig Down of Well Services equipment and preparation for Barge Move in 14 hours



Well Operations

- Operation required to run in hole several Bottom Hole Assemblies (BHA's) to conduct complex operations including Scale Milling and Jetting to increase Well Production.
- Heavy Coil Tubing (CT) of up to 2 & 3/8 inches was utilized.
- The CT injector head was supported in Evolution's Well Intervention Derrick.
 This allowed for more efficient and safer Bottom Hole Assembly (BHA) tool
 changeouts over traditional methods where the CT Injector head is supported
 by a crane.
- 10 BHA's (Bottom Hole Assemblies) were run into the well on Coil tubing (CT), averaging 2 hours per change-out. These change-outs typically take 6 hours each with CT support methods typically used in the region. Offering a 66% time saving on Traditional CT support methods.
- Well Services Equipment was moved across and commissioned on Evolution in a record 2 days utilising Evolution's modern cranes





Coil Tubing on Evolution

Quick BHA Changeout



Evolution Cantilever Specifications

Description	Imperial	Metric
Derrick: Rack and Pinion		
Free Height	56 Ft	17m
Top Drive		
Power	2000 HP	1491 K Watts
Pull	551 KLbs	250MT
Rotational Torque	32 KFt/Lbs	43.4 kN-m
Make Up/ Break Torque	80 KFt/Lbs	108.5 kN-m
Rotation	200 RPM	200 RPM
Pipe Handling - Automated with PH Crane and conveyor		
system	0 7/0" 1 1" 00	T
Pipe size	2 7/8" - 14" OD	40.50
Conveyor capacity	40-60	40-60
	pipes/hours	pipes/hours
Load	67.4 KLbs	300kN
Tripping speed:	1300 Ft/Hr	400 m/Hr
	30 joints/Hr	30 joints/Hr
	Range 3	Range 3
Pipe Length – up to range 3	45ft	14m
Iron Roughneck		
Make Up/ Break Torque	100 KFt/Lbs	135.6kN-m
Pipe size	2 7/8" - 10"pipe	7 cm -25.4 cm
Bushing pass through		
Master Bushing	37 1/2"	95.25 cm
Pass through	49 1/2"	125.7 cm
Mud System		
Active pits	1,500 BBL	240 m3
Barge internal tanks Brine	1,855 BBL	295 m3
storage		
Mud Pumps 2x		
Power rating	1,300 HP each	970 K Watts
Flow	441 GPM each	17,190 LPM
BOP's		
Size	13 5/8"	34.6 cm
Pressure Rating	5,000 PSI	345 Bar
Cantilever	•	•
Longitudinal Skid to Well	49 Ft	15m
Centre		
Transverse Skid Well Centre	23 Ft	7.0m
Length -Total/main	97 Ft/ 78 Ft/ 19	29.6 m /23.7m
deck/Work deck	Ft	/5.9m
Width – Total (Work deck)	39 Ft (32.8 Ft)	12m (10m)
Height (Head room)	16.7 Ft (14.8	5.1m (4.5m)
,	Ft)	
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